

PR510 ANALYSIS OF OXALIPLATIN-INDUCED ALLERGIC REACTIONS AND THE EFFECTIVENESS OF RECEIVING PREVENTIVE ANTIHISTAMINE DRUGS

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OBJECTIVES: Oxaliplatin is currently one of the main cytotoxic drugs for some cancers. In recent years, increasing incidence of oxaliplatin-induced allergic reactions was reported. Severe allergic reactions even interrupted ongoing oxaliplatin treatments. Many doctors give the patients preventive antihistamine drugs before oxaliplatin infusions. However, on the one side, antihistamine drugs often cause dizziness or conscious disturbance. On the other side, antihistamine drugs cannot prevent some patients effectively from oxaliplatin-induced allergic reactions by clinical observation. **METHODS:** This is a retrospective case-control study. Patients receiving oxaliplatin from 2008 to 2013 in a medical center in southern Taiwan were included and divided into two groups. The study group consisted of patients without taking antihistamine drugs before oxaliplatin infusions; the control group consisted of patients taking antihistamine drugs before oxaliplatin infusions. We analyzed the incidence and the grade of oxaliplatin-induced allergic reactions and the cost of antihistamine drugs. The data was analyzed by SPSS 19.0. **RESULTS:** There were 535 patients included for analysis. There were 164 patients in the study group, and 371 patients in the control group. Allergic reactions happened to 27 patients (16.46%) in the study group, while 58 patients (15.22%) in the control group (95% CI: 0.571-1.548; $p > 0.05$). 15 patients (9.15%) had mild allergic reactions and 12 patients (7.32%) moderate and severe in the study group; 36 patients (9.7%) had mild allergic reactions and 22 patients (5.93%) moderate and severe in the control group (95% CI: 0.303-1.928; $p > 0.05$). The cost of antihistamine drugs and consumables was about NTD 56,000 per year. **CONCLUSIONS:** This study reveals that the effectiveness of giving antihistamine drugs to prevent oxaliplatin-induced allergic reactions had no statistically significant difference from that in the control group. Preventive antihistamine drugs not only cause dizziness or conscious disturbance but also increase the cost of treatments.

PR511 RESPIRATORY SYNCYTIAL VIRUS PROPHYLAXIS IN DOWN SYNDROME: A PROSPECTIVE COHORT STUDY

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OBJECTIVES: Children with Down syndrome (DS) are at significant risk for respiratory tract (RTI) and respiratory syncytial virus (RSV) infection and related hospitalization. We compared hospitalization rates for RTI in DS children aged < 2 years who prospectively received palivizumab during the RSV season versus a previously published, similar untreated DS birth cohort. **METHODS:** 532 prophylaxed DS children were assembled from the prospective Canadian palivizumab registry (CARESS) between the years 2005-2012. The untreated group comprised 233 DS children derived from a Dutch, nation-wide birth cohort from 2003-2005. Events during the RSV seasons were counted. Demographics and risk factors were compared using t-test or chi-square where appropriate. Poisson regression analysis was performed to compare incidence rate ratios [95% CI] for both RTI and confirmed RSV hospitalization between the groups while controlling for observation length and known risk factors for severe RSV infection. **RESULTS:** In total, 31 (23 untreated, 8 treated) RSV-related hospitalizations were documented. The adjusted risk of RSV-related hospitalizations was higher in untreated subjects compared to palivizumab recipients (incidence rate ratio 3.63 [95% CI: 1.52-8.67], $p = 0.004$). The adjusted risk for hospitalization for all respiratory tract infection (147 events; 73 untreated, 74 treated) was similar (incidence rate ratio untreated versus palivizumab 1.11 [0.80 - 1.55], $p = 0.53$). **CONCLUSIONS:** These results suggest that palivizumab is associated with a 3.6-fold reduction in the incidence rate ratio for RSV-related hospitalization in children with DS aged <2 years. A randomized trial is needed to determine the efficacy of RSV immunoprophylaxis in this specific high risk patient population.

PR512 PREVALENCE AND INCIDENCE OF INTERSTITIAL PULMONARY DISEASES WITH FIBROSIS

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OBJECTIVES: Other Interstitial pulmonary diseases with fibrosis (OIPDF) classified by ICD-10 CA code J84.1 are rare with unknown prevalence at the national level in Canada. OIPDF includes diffuse pulmonary fibrosis, fibrosing alveolitis (cryptogenic), Hamman-Rich syndrome, idiopathic pulmonary fibrosis, and usual interstitial pneumonia. To estimate the prevalence and incidence of OIPDF in Canada in 2010. **METHODS:** We used mandatory standardized national administrative data from fiscal years 2006 to 2011 to identify OIPDF cases aged 50+ with an ICD-10 CA diagnosis code of J84.1 from acute care admissions, emergency room visits, day surgery and in-hospital respiratory clinics. Cases were required to have computed tomography, biopsy or bronchoscopy prior to the OIPDF diagnosis and were excluded if they had a subsequent diagnosis of other interstitial lung disease after the OIPDF diagnosis. We compared the rates of prevalence to incidence and investigated the rates of death with Kaplan Meier analysis. National estimates for rates of prevalence and risk of death were compared for OIPDF versus COPD. **RESULTS:** In Canada for the year 2010 for ages 50+, the prevalence of OIPDF was 6,307 (54.1/100,000) and incidence was 2,804 cases (24.0/100,000). The low ratio of prevalence to incidence (2.2) existed because of a high death rate, with the 4 year cumulative risk of death being 46.8%. The number of deaths for OIPDF was 28.9% of all deaths from COPD, while the prevalence of OIPDF was 2.9% of all COPD cases. **CONCLUSIONS:** OIPDF is an important disease with a high death rate and non-trivial prevalence and incidence rates. However, there were wide variations in the rates of prevalence and incidence across the provinces, and the

national estimates were higher than reported from other countries. Further research at the provincial level is forthcoming to validate the national estimates.

PR513 CHARACTERISTICS AND TREATMENT PATTERNS OF PERSISTENT ASTHMA IN THE UNITED STATES: RESULTS FROM THE 2011 MEDICAL EXPENDITURE PANEL SURVEY

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OBJECTIVES: Persistent asthma is a significant, understudied health condition leading to disproportionate use of health care resources and patient burden compared to patients with mild-to-moderate forms of the disease. This study was designed to describe the population of individuals with persistent asthma and severe persistent asthma in the U.S., identify asthma medication use patterns, and examine the influence of patient characteristics on choice of treatment. **METHODS:** We used HEDIS criteria to identify individuals with persistent asthma in the 2011 Medical Expenditure Panel Survey. Asthma severity was assessed based on exacerbations and prescription medication use. Andersen's behavioral model of health service use was used to identify predisposing, enabling, and need variables associated with persistent asthma and medication use. **RESULTS:** The persistent asthma population (n=566) was predominantly female (67.72%) and white (83.69%), with a mean age of 53.06 years. On average, they had 0.16 ER visits, 0.047 hospital stays, 0.18 outpatient visits, 1.47 office-based provider visits, and 10.32 prescription medication fills during the survey year. 2.3% of patients were identified as having severe persistent asthma. They were predominantly female (92%) and white (81.46%), with a mean age of 58.08 years. They had an average of 0.54 ER visits, 0.54 hospital stays, 0.154 outpatient visits, 3 office-based provider encounters, and 25.92 prescription medication fills during the survey year. 41.83% of the persistent asthma population were not prescribed a short-acting beta agonist, compared to 36.71% of the severe asthma population. 49.85% of the persistent asthma population was on an inhaled corticosteroid + long-acting beta agonist (ICS/LABA), per guideline recommendations. **CONCLUSIONS:** There appear to be patient characteristics that are associated with persistent asthma; however the lack sample size in the severe population limited results. A significant number of people were not treated according to guidelines, indicating a potential deficit in prescribing practices.

PR514 VARIATION TRENDS IN ASTHMA PREVALENCE IN THE UNITED STATES MEDICAID POPULATION

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OBJECTIVES: The goal of this study was to examine patient age and gender as well as racial and geographic variations in asthma prevalence among U.S. Medicaid patients. **METHODS:** Patients diagnosed with asthma (International Classification of Disease, 9th Revision, Clinical Modification [ICD-9-CM] diagnosis code 493.xx) were included in a retrospective study (January 1, 2008 to December 31, 2009) from a Medicaid fee-for-service (FFS) population. All patients were required to have a 2-year continuous Medicaid FFS enrollment in 2008 and 2009. Patients with managed care enrollment in any month during the study period were excluded. Disease prevalence was stratified by region, state, age, gender and race for all the patients. Descriptive statistics were calculated as the number and percentage of patients in each category to measure the prevalence in the sample. **RESULTS:** A total of 399,572 patients were diagnosed with asthma in 2008 and 2009. For asthma patients, prevalence was the highest for those under age 40 (10.59%), followed by age groups 40 to 59 (10.45%), and 60+ (5.67%). Prevalence by race was also examined: Native American (10.38%), Black (9.73%), White (7.82%), Hispanic (7.78%) and Asian (6.06%). Higher asthma prevalence rates were observed for female (8.69%) compared to male patients (7.28%). Geographic variation was analyzed with the highest asthma prevalence observed in Missouri (14.04%), followed by New Hampshire (13.84%), Connecticut (13.12%), Ohio (12.96%) and Minnesota (12.52%). Prevalence rates were found to be highest in the Midwest (10.43%) compared to the Northeast (8.65%), West (6.96%) and Southern (6.39%) U.S. regions. **CONCLUSIONS:** The current study shows that patients under age 60 have a higher probability of being diagnosed with asthma. Moreover, Native American and Black patients were more likely to be diagnosed with asthma compared to other races. Geographically, patients residing in the Midwest U.S. region have a higher risk for an asthma diagnosis.

PR515 IS MIGRATION STATUS A RISK FACTOR FOR ASTHMA AND ALLERGIES? PRELIMINARY FINDINGS FROM A SYSTEMATIC REVIEW

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OBJECTIVES: There is a huge burden of disease for childhood asthma and allergies. Evidence on migration as a potential risk factor for asthma and allergies is contradictory; therefore, we aimed at assessing the international evidence for the association between migration status and asthma and allergies. **METHODS:** We conducted a systematic review on asthma and allergies and immigration status in accordance with the guidelines set by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. The search was conducted in the PubMed database in November 2012 and we chose broad string and MeSH terms in our search to include any definition of asthma and allergies, and migration status. From the total of 2737 unique hits identified through the search, 127 studies were selected for a full-text review. After reviewing full-text papers, 54 studies were selected for data extraction and synthesis. **RESULTS:** The prevalence of asthma and allergies in newly arrived immigrants appeared to be similar to prevalences